

REMARKS

Entry of the foregoing amendments in light of the remarks which follow is respectfully requested.

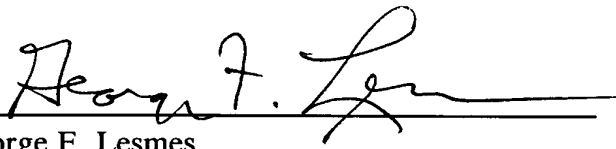
By the foregoing amendments, a typographical error in claim 21 has been corrected and claim 33 has been amended from "moving a forcible releasing means relative to the upper mold" to --a forcible releasing means is moved relative to the upper mold--

Entry of the foregoing is believed to be proper since only typographical errors are corrected. Further and favorable action in the form of a Response to Rule 312 Communication (PTOL-271) acknowledging entry of the above amendments is believed to be next in order, and such action is earnestly solicited.

If there are any questions regarding this submission, or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 
George F. Lesmes
Registration No. 19,995

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

Date: September 23, 2003

IN THE CLAIMS:

In accordance with 37 C.F.R. §1.312, please amend the claims as follows:

Claims 1-20 (canceled)

21. (Currently Amended) An apparatus for manufacturing an optical element comprising:

an upper mold and a lower mold capable of being separated ~~an~~ and approaching each other, each of the upper mold and the lower mold comprising a forming surface,

a regulator for regulating the upper mold and the lower mold to align the axes thereof wherein the regulator regulates the upper mold and the lower mold by direct contact with the upper mold and the lower mold,

a forcible releasing means for releasing the optical element adhered to a forming surface by contacting at least a rim portion of the optical element, and

a moving means for moving the forcible releasing means relative to the upper mold or the lower mold such that, in the course of the separation of the upper mold and the lower mold, the forcible releasing means contacts at least a rim portion of the optical element to release the optical element from the forming surface

22. (Previously Presented) The apparatus of Claim 21, wherein the moving means moves the forcible releasing means in conjunction with movement of the upper mold or lower mold in the course of separation of the upper mold and the lower mold.

Claim 23 (Canceled)

24. (Previously Presented) The apparatus of Claim 21, wherein the regulator comprises a drum.

25. (Previously Presented) The apparatus of Claim 24, wherein the regulator guides vertical movement of the forcible releasing means.

26. (Previously Presented) The apparatus of Claim 23, wherein the forcible releasing means is capable of releasing the optical element adhered to a forming surface of the upper mold.

27. (Previously Presented) The apparatus of Claim 26, wherein the moving means is placed in an outer periphery of the upper mold.

28. (Previously Presented) The apparatus of Claim 27, wherein the forcible releasing means is positioned away from the forming surface of the upper mold such that the forcible releasing means is in non-contact with the optical element, when the upper and the lower mold are approached.

29. (Previously Presented) The apparatus of Claim 28, wherein the moving means comprises a spring.

30. (Previously Presented) The apparatus of Claim 29, wherein the regulator comprises a drum.

31. (Previously Presented) The apparatus of Claim 30, wherein the regulator guides vertical movement of the forcible releasing means.

32. (Previously Presented) The apparatus of Claim 31, wherein the regulator guides movement of at least one of the upper mold or the lower mold by a clearance of 2 to 10 μm .

33. (Currently Amended) A method of manufacturing an optical element by press molding a glass material with an upper mold and a lower mold, wherein each of the upper mold and the lower mold comprises an upper forming surface and a lower forming surface, respectively, comprising:

press molding a heated glass material with the upper mold and the lower mold such that an outer diameter of said optical element becomes larger than an outer diameter of the upper forming surface,

cooling the optical element, and

separating the upper mold and the lower mold from each other,

wherein the axes of the upper mold and the lower mold are regulated by a regulator in the press molding step wherein the regulator regulates the upper mold and the lower mold by direct contact with the upper mold and the lower mold, and

in the separating step, ~~moving a forcible releasing means relative to the upper mold~~
a forcible releasing means is moved relative to the upper mold such that the forcible
releasing means contacts a rim of the optical element adhered to the upper forming surface
and releases the optical element from the upper forming surface.

34. (Previously Presented) The method of Claim 33, wherein the regulator
comprises a drum.

35. (Previously Presented) The method of Claim 34, wherein the upper mold
moves downward to follow shrinkage of the molded article in the cooling step.

36. (Previously Presented) The method of Claim 35, wherein the upper mold, the
lower mold and the glass material are heated to temperatures in a range corresponding to
the viscosity of the glass material of 10^8 to 10^{12} poises, prior to the press molding step, and
the separating step is carried out when the molded article is cooled to a temperature not
higher than the transition temperature of the glass material.

37. (Previously Presented) The method of Claim 36, wherein the heated glass
material is transferred to the forming surface of the heated lower mold, prior to the press
molding step.

38. (Previously Presented) The method of Claim 37, wherein the heated glass material is floated by a gas and is transferred to the heated forming surface of the lower mold.